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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,324	11/23/2001	Jun Hasegawa	216535US2S	2640
22850	7590	01/24/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			TRAN, KHAI	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/990,324	<b>Applicant(s)</b> HASEGAWA, JUN	
	<b>Examiner</b> KHAI TRAN	<b>Art Unit</b> 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 8-22, 24-28 and 30-32 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 7, 23 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/23/01; 9/15/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 7, 23, 29 are objected to because of the following informalities:

Appropriate correction is required.

Regarding claim 7, line 3, the term "the specified threshold value" should be changed to --a specified threshold value--, otherwise, in line 2, the term "claim 2" should be changed to --claim 6--.

Regarding claim 23, lines 2-3, the term "the specified threshold value" should be changed to --a specified threshold value--, otherwise, in line 2, the term "claim 18" should be changed to --claim 22--.

Regarding claim 29, lines 2-3, the term "the specified threshold value" should be changed to --a specified threshold value--, otherwise, in line 2, the term "claim 19" should be changed to --claim 28--.

### ***Allowable Subject Matter***

2. Claims 1-6, 8-22, 24-28, 30-32 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of the record discloses or suggests a code synchronous determining method and apparatus, comprising: scanning the stored correlation values in a given direction to detect at least one minimal correlation valued to register a retrieved minimal timing corresponding to the detection minimal correlation value; extracting at least one correlation value selected from the correlation values stored at

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plural timings having a specified time interval from the maximal timing to the minimal timing as a high correlation value candidate as recited in claims 1-17; steps of comparing each correlation value stored in the forward and back directions from the maximal timing with a predetermined value; registering a timing when the associated correlation value is detected to be less than a minimum correlation valued as the minimal timing; extracting at least one high correlation value from the correlation values obtained in the every specified time interval from maximal timing till the minimal timing; and registering a timing data corresponding to the extracted high correlation value as candidate timing data for code synchronism as recited in claim 15; a code synchronous determining device configured to determine plural code synchronous timing candidates by reading the correlation values stored in the storage device, the code synchronous timing determining device including a time width designating unit configured to designate a limit number of correlation values data of the correlation values stored in the storage device, and candidate extracting unit configured to extract high correlation values as code synchronous timing candidates from the limit number of correlation values designated by the time width designating unit as recited in claim 31; and the scanning element including: a holding circuit having a number of data holding stages configured to hold timing information at the plural timings in a time sequence order acquired in relation to the correlation values, the number of the data holding stages being defined to correspond to a limit number of correlation valued data of the correlation values stored in the storage circuit; registering circuit configured to retrieve a timing corresponding to a correlation value having at least one maximal value from the

information at the plural timings held in the holding circuit; to register the timings as minimal timing; and candidate extracting unit configured to extract high correlation values as code synchronous timing candidate from the limit number of correlation values held in the holding circuit as recited claim 32.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shou et al (U.S. Pat. 5,974,038) disclose a receiver for CDMA communication system.

Sato (U.S. Pat. 6,188,679) discloses a CDMA chip synchronization circuit.

Zhou et al (U.S. Pat. 6,252,899) disclose a complex despreading system.

5. This application is in condition for allowance except for the following formal matters as indicated above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Khai Tran**  
**Patent Examiner**

**21 January, 2005**

<b>Notice of References Cited</b>	Application/Control No. 09/990,324	Applicant(s)/Patent Under Reexamination HASEGAWA, JUN	
	Examiner KHAI TRAN	Art Unit 2637	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,974,038	10-1999	Shou et al.	370/335
	B	US-6,188,679	02-2001	Sato, Toshifumi	370/335
	C	US-6,252,899	06-2001	Zhou et al.	375/140
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 216535US2S		SERIAL NO. NEW APPLICATION	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Jun HASEGAWA			
				FILING DATE HEREWITH		GROUP 2037	

U.S. PTO  
 09/990322  
 11/23/01

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS						
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO	
llk llk	AO	11-340851	12/10/99	JAPAN		X
	AP	2001-186056	7/6/01	JAPAN		X
	AQ					
	AR					
	AS					
	AT					
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)		
	AW	
	AX	
	AY	
	AZ	

Examiner KHAI TRAN	Date Considered 1/21/05
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\*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form PTO 1449  
(Modified)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

216535US2S

SERIAL NO.

09/990,324

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

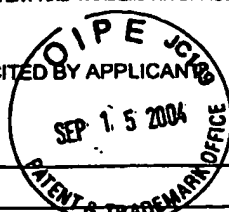
Jun HASEGAWA

FILING DATE

November 23, 2001

GROUP

2631 2637



## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	5,644,591	07/01/1997	T. R. SUTTON			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
llk	AO	0 848 503	06/17/1998	EUROPE		
llk	AP	0 932 263	07/28/1999	EUROPE		
llk	AQ	0 820 156	01/21/1998	EUROPE		
	AR					
	AS					
	AT					
	AU					
	AV					

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

llk	AW	V. TUUKKANEN, et al., IEEE 6 <sup>TH</sup> International Conference on Universal Personal Communications Record, pages 698-702, XP-010248798, "COMBINED INTERPOLATION AND MAXIMUM LIKELIHOOD SYMBOL TIMING RECOVERY IN DIGITAL RECEIVERS", October 12, 1997
	AX	
	AY	
	AZ	

☐ Additional References sheet(s) attached

Examiner

KHAI TRAN

Date Considered

1/21/05

\*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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